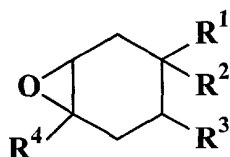


CLAIM OR CLAIMS:

WHAT IS CLAIMED IS:

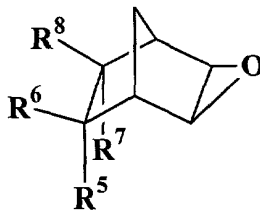
- 5 1. A functional fluid composition that generates reduced levels of
 carboxylic acid during use comprising:

- (a) a basestock comprising a phosphate ester, and
 (b) at least one acid scavenger selected from
 (i) epoxides of the formula



(I)

- (ii) epoxides of the formula

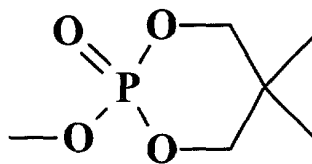


(II), or

- (iii) mixtures thereof;

wherein R^1 , R^2 and R^3 are independently selected from H, $-(CH_2)_n-R$ and $-C(O)-R^{12}$,
 and wherein one or two of R^1 , R^2 and R^3 are $-C(O)-R^{12}$ or $-(CH_2)_n-R$; R^4 is selected
 from H or

- 20 $-CH_3$; and R^5 , R^6 , R^7 and R^8 are independently selected from H, $-(CH_2)_n-R$ and $-C(O)-$
 R^{12} , and wherein up to two of R^5 , R^6 , R^7 and R^8 are $-C(O)-R^{12}$ or $-(CH_2)_n-R$;
 wherein R is selected from H, a linear or branched alkyl group having 1 to 12 carbon
 atoms, an arylalkyl group having 7 to 12 carbon atoms, $-O-R^{10}$, $-O-R^9-O-R^{10}$,



, or $-\text{Si}(\text{OR}^{11})_3$; R^{12} is selected from a linear or branched alkyl group having 1 to 12 carbon atoms, or an arylalkyl group having 7 to 12 carbon atoms, n is an integer from 1 to 4, R^9 is an alkylene group having 2 to 6 carbon atoms, R^{10} is an alkyl group having 1 to 12 carbon atoms, R^{11} is an alkyl group having 1 to 8 carbon atoms, and R^{12} is an alkyl group having 1 to 12 carbon atoms.

2. The composition of claim 1 wherein said acid scavenger is an epoxide of formula (I).

10 3. The composition of claim 2 wherein one of R^1 , R^2 and R^3 is $-\text{C}(\text{O})-\text{R}^{12}$ or $-(\text{CH}_2)_n-\text{R}$.

4. The composition of claim 3 wherein one of R^1 , R^2 and R^3 is $-(\text{CH}_2)_n-\text{R}$.

15 5. The composition of claim 4 wherein R is selected from a linear or branched alkyl group having 1 to 12 carbon atoms, an arylalkyl group having 7 to 12 carbon atoms, $-\text{O}-\text{R}^{10}$, $-\text{O}-\text{R}^9-\text{O}-\text{R}^{10}$.

6. The composition of claim 5 wherein n is 1.

7. The composition of claim 2 wherein R^1 and R^2 are $-\text{C}(\text{O})-\text{R}^{12}$ or $-(\text{CH}_2)_n-\text{R}$.

20 8. The composition of claim 7 wherein R^1 and R^2 is $-(\text{CH}_2)_n-\text{R}$.

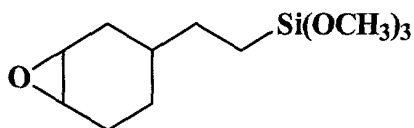
9. The composition of claim 8 wherein R is selected from a linear or branched alkyl group having 1 to 12 carbon atoms, an arylalkyl group having 7 to 12 carbon atoms, $-\text{O}-\text{R}^{10}$, $-\text{O}-\text{R}^9-\text{O}-\text{R}^{10}$.

25 10. The composition of claim 9 wherein n is 1.

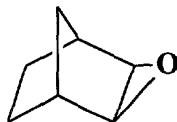
11. The composition of claim 2 wherein R^1 and R^3 are $-\text{C}(\text{O})-\text{R}^{12}$ or $-(\text{CH}_2)_n-\text{R}$.

12. The composition of claim 11 wherein R^1 and R^3 is $-(\text{CH}_2)_n-\text{R}$.

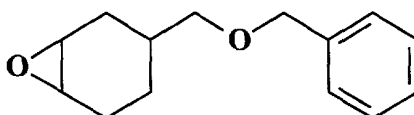
13. The composition of claim 12 wherein n is 1.
14. The composition of claim 2 wherein R⁴ is H.
15. The composition of claim 1 wherein said acid scavenger is an epoxide of formula (II).
- 5 16. The composition of claim 15 wherein one of R⁵, R⁶, R⁷ and R⁸ is -C(O)-R¹² or -(CH₂)_n-R.
17. The composition of claim 16 wherein one of R⁵, R⁶, R⁷ and R⁸ is -(CH₂)_n-R.
18. The composition of claim 17 wherein n is 1.
- 10 19. The composition of claim 1 wherein said acid scavenger is



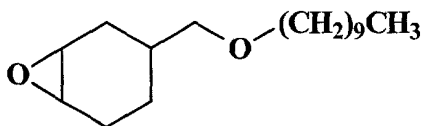
20. The composition of claim 15 wherein said acid scavenger is:



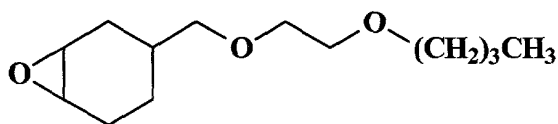
- 15 21. The composition of claim 6 wherein said acid scavenger is



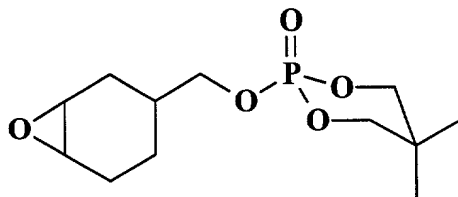
22. The composition of claim 6 wherein said acid scavenger is:



- 20 23. The composition of claim 6 wherein said acid scavenger is:

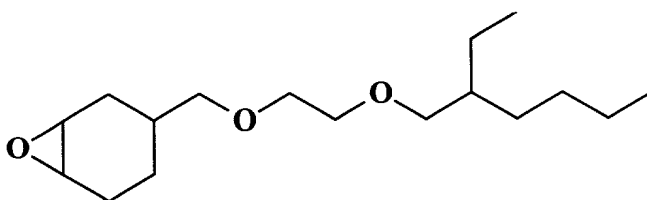


24. The composition of claim 1 wherein said acid scavenger is:

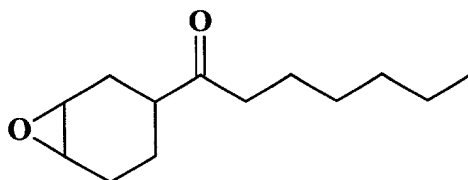


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25. The composition of claim 6 wherein said acid scavenger is:

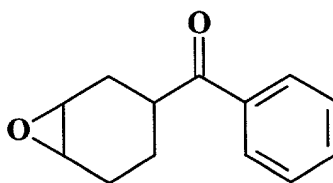


26. The composition of claim 3 wherein said acid scavenger is:

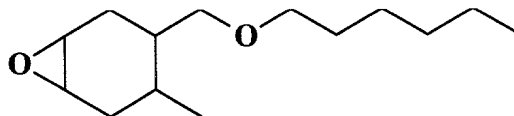


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27. The composition of claim 3 wherein said acid scavenger is

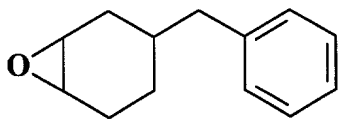


28. The composition of claim 13 wherein said acid scavenger is:

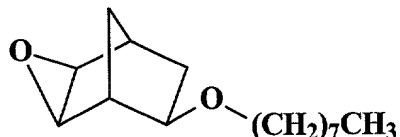


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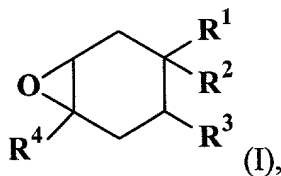
29. The composition of claim 6 wherein said acid scavenger is:



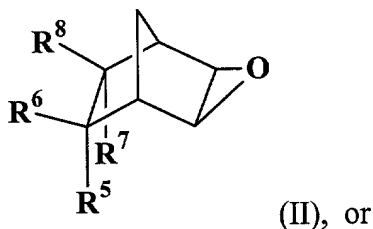
- 5 30. The composition of claim 18 wherein said acid scavenger is:



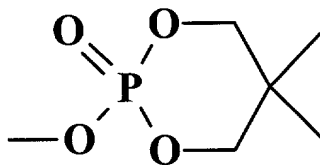
31. A method for reducing the production of carboxylic acid during use of a functional fluid comprising (a) a basestock comprising a phosphate ester, and
10 (b) at least one acid scavenger, said method comprising admixing in said functional fluid at least one acid scavenger selected from epoxides of the formula:



epoxides of the formula:



- 15 mixtures thereof; wherein R^1 , R^2 and R^3 are independently selected from H, $-(CH_2)_n-R$ and $-C(O)-R^{12}$, and wherein one or two of R^1 , R^2 and R^3 are $-C(O)-R^{12}$ or $-(CH_2)_n-R$; R^4 is selected from H or $-CH_3$; and R^5 , R^6 , R^7 and R^8 are independently selected from H, $-(CH_2)_n-R$ and $-C(O)-R^{12}$, and wherein up to two of R^5 , R^6 , R^7 and R^8 are $-C(O)-R^{12}$ or $-(CH_2)_n-R$; wherein R is selected from H, a linear or branched alkyl group having 1 to
20 12 carbon atoms, an arylalkyl group having 7 to 12 carbon atoms, $-O-R^{10}$, $-O-R^9-O-R^{10}$,



, or $-\text{Si}(\text{OR}^{11})_3$; R^{12} is selected from a linear or branched alkyl group having 1 to 12 carbon atoms, or an arylalkyl group having 7 to 12 carbon atoms, n is an integer from 1 to 4, R^9 is an alkylene group having 2 to 6 carbon atoms, R^{10} is an alkyl group having 1 to 12 carbon atoms, R^{11} is an alkyl group having 1 to 8 carbon atoms, and R^{12} is an alkyl group having 1 to 12 carbon atoms.

32. The method of claim 31 wherein said acid scavenger is an epoxide of formula (I).

33. The method of claim 32 wherein one of R^1 , R^2 and R^3 is $-\text{C}(\text{O})-\text{R}^{12}$ or $-(\text{CH}_2)_n-\text{R}$.

34. The method of claim 33 wherein one of R^1 , R^2 and R^3 is $-(\text{CH}_2)_n-\text{R}$.

35. The method of claim 34 wherein R is selected from a linear or branched alkyl group having 1 to 12 carbon atoms, an arylalkyl group having 7 to 12 carbon atoms, $-\text{O}-\text{R}^{10}$, $-\text{O}-\text{R}^9-\text{O}-\text{R}^{10}$.

36. The method of claim 35 wherein n is 1.

37. The method of claim 32 wherein R^1 and R^2 are $-\text{C}(\text{O})-\text{R}^{12}$ or $-(\text{CH}_2)_n-\text{R}$.

38. The method of claim 37 wherein R^1 and R^2 is $-(\text{CH}_2)_n-\text{R}$.

39. The method of claim 38 wherein R is selected from a linear or branched alkyl group having 1 to 12 carbon atoms, an arylalkyl group having 7 to 12 carbon atoms, $-\text{O}-\text{R}^{10}$, $-\text{O}-\text{R}^9-\text{O}-\text{R}^{10}$.

40. The method of claim 39 wherein n is 1.

41. The method of claim 32 wherein R^1 and R^3 are $-\text{C}(\text{O})-\text{R}^{12}$ or $-(\text{CH}_2)_n-\text{R}$.

42. The method of claim 41 wherein R^1 and R^3 is $-(\text{CH}_2)_n-\text{R}$.

43. The method of claim 42 wherein n is 1.

44. The method of claim 32 wherein R^4 is H.

45. The method of claim 31 wherein said acid scavenger is an epoxide of formula (II).

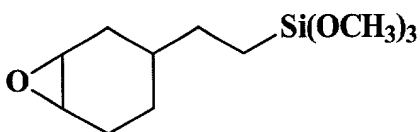
46. The method of claim 45 wherein one of R^5 , R^6 , R^7 and R^8 is $-\text{C}(\text{O})-\text{R}^{12}$ or $-(\text{CH}_2)_n-\text{R}$.

47. The method of claim 46 wherein one of R^5 , R^6 , R^7 and R^8 is $-(\text{CH}_2)_n-\text{R}$.

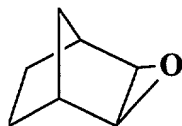
48. The method of claim 47 wherein n is 1.

49. The method of claim 31 wherein said acid scavenger is

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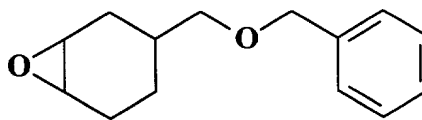


50. The method of claim 45 wherein said acid scavenger is:

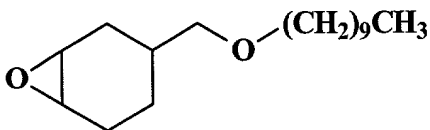


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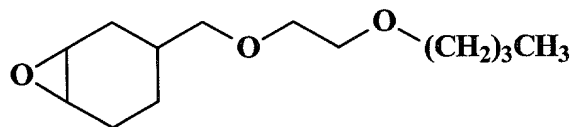
51. The method of claim 36 wherein said acid scavenger is



52. The method of claim 36 wherein said acid scavenger is:

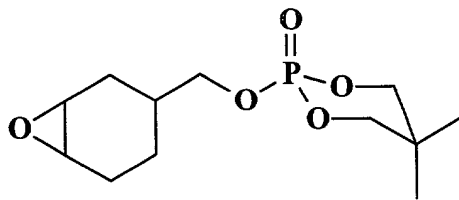


53. The method of claim 36 wherein said acid scavenger is:

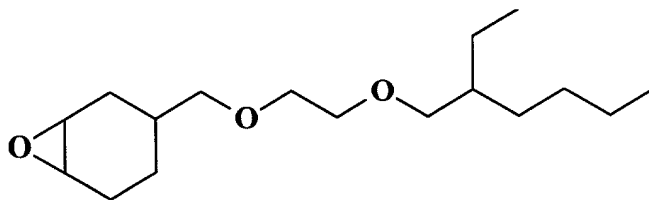


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54. The method of claim 31 wherein said acid scavenger is:

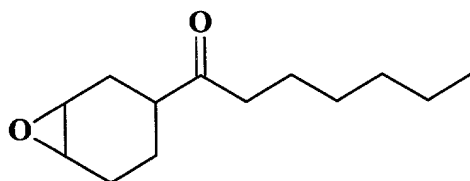


55. The method of claim 36 wherein said acid scavenger is:

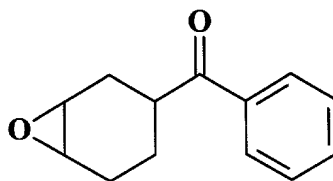


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56. The method of claim 33 wherein said acid scavenger is:

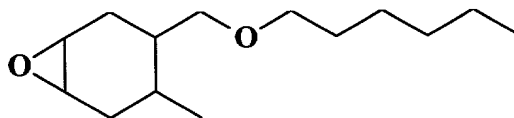


57. The method of claim 33 wherein said acid scavenger is

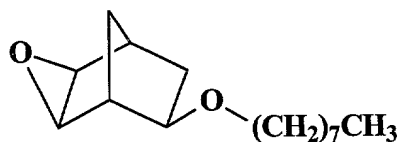


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58. The method of claim 43 wherein said acid scavenger is:

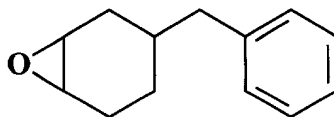


59. The method of claim 36 wherein said acid scavenger is:



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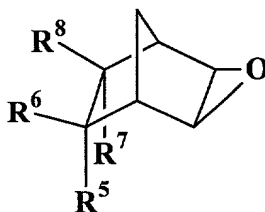
60. The method of claim 48 wherein said acid scavenger is:



61. An acid scavenger selected from the group consisting of

- 5 3-benzoxymethyl-7-oxabicyclo[4.1.0]heptane, 3-decyloxymethyl-7-oxabicyclo[4.1.0]heptane, 3-(2-n-butoxyethoxymethyl)-7-oxabicyclo[4.1.0]heptane, 3-(5,5-dimethyl-2-oxo-1,3,2-dioxaphosphorinanoxymethyl)-7-oxabicyclo[4.1.0]heptane, 3-(2-ethylhexoxymethyl)-7-oxabicyclo[4.1.0]heptane, 1-(7-oxabicyclo[4.1.0]hept-3-yl)-1-hexanone, 1-(7-oxabicyclo[4.1.0]hept-3-yl)-1-phenone,
- 10 4-methyl-3-hexoxymethyl-7-oxabicyclo[4.1.0]heptane, 3-(phenylmethyl)-7-oxabicyclo[4.1.0]heptane, and 6-n-octyloxymethyl-3-oxatricyclo[3.2.1.0^{2,4}]octane.

62. An acid scavenger represented by the formula:



- wherein R^5 , R^6 , R^7 and R^8 are independently selected from H, $-(CH_2)_n-R$ and
- 15 $-C(O)-R^{12}$, and at least one of R^5 , R^6 , R^7 and R^8 is $-(CH_2)_n-R$ or $-C(O)-R^{12}$; wherein R^{12} is selected from a linear or branched alkyl group having 1 to 12 carbon atoms, or an arylalkyl group having 7 to 12 carbon atoms.